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Instructions for use

# NOTES ON *BRACONIDAE* OF JAPAN

## II. *MACROCENTRINI*

By

CHIHISA WATANABE

(With 2 Textfigures)

This group has been treated as a subfamily of *Braconidae* by most of the senior authors as FÖRSTER,<sup>(1)</sup> MARSHALL,<sup>(2)</sup> SZÉPLIGETI,<sup>(3)</sup> and ASHMEAD,<sup>(4)</sup> being divided by the latter into two tribes as *Macrocentrini* and *Zelini*, but it has been placed by HANDLIRSCH<sup>(5)</sup> in his subfamily *Helconinae* as a tribe, *Macrocentrini*. Our few species from Japan may, for convenience, be treated under the HANDLIRSCH's tribe.

The life-histories of the species belonging to this tribe, as far as my studies are concerned, show that they attack the various lepidopterous larvae.

Three genera, containing four species, have been recorded from this country: in 1906, ASHMEAD<sup>(6)</sup> described for the first time a new species, *Macrocentrus gifensis* ASHMEAD, but, as far as my studies go, it may be a form of *Macrocentrus abdominalis* F.; in 1929, FAHRINGER<sup>(7)</sup> gave Japan as a locality of *Macrocentrus pallidipes* NEES, but it may also be placed in another form of *Macrocentrus abdominalis* F.; in 1931, MATSUMURA<sup>(8)</sup> recorded two species, *Zele testaceator* CURT. and *Cerotopia corneimacula* ENDERL., the latter being found in Sumatra and the former in Europe.

I have treated in this paper the following two new species, four unrecorded species and one new form; thus it has been to us in all eight species and three forms as existing in Japan.

- 
- 1): FÖRSTER—Synopsis der Familien und Gattungen der Braconen (Verh. Naturh. Ver. Preuss. Rheinl. XIX, 1862).
  - 2): MARSHALL—A). Species des hyménoptères d'Europe etc., IV, (1888), & V, (1891).  
B). Monograph of British Braconidae, 8 parts (Trans. Entom. Soc. London, 1885-1899).
  - 3): SZÉPLIGETI—Genera Insectorum, 22-24, (1904).
  - 4): ASHMEAD—Classification of the Ichneumon Flies or the Superfamily *Ichneumonidea* (Proc. U. S. Nat. Mus. Vol. 23, 1900).
  - 5): HANDLIRSCH—Handbuch der Entomologie (*Hymenoptera* in Bd. II, pp. 712-825) Jena, (1912-1923).
  - 6): ASHMEAD—Descriptions of new Hymenoptera from Japan (Proc. U. S. Nat. Mus. Vol. 30, 1906).
  - 7): FAHRINGER—Entomolog. Ergeb. d. Schwed. Kamchatka Expedition 1920-1922 (Arkiv för Zoologi, 21 A, No. 8, 1929).
  - 8): MATSUMURA—6000 Illustrated Insects of Japan-Empire (1931).

[Ins. Mats. Vol. VI, No. 3, February 1932]

1. *Macrocentrus marginator* NEES
  2. *M. abdominalis* FABRICIUS
  3. *M. infirmus* NEES
  4. *M. japonicus* WATANABE (nov. sp.)
  5. *Zele testaceator* CURT. f. *japonica* WATANABE (nov. f.)
  6. *Z. discolor* WESMAEL
  7. *Z. simplex* WATANABE (nov. sp.)

I must express here in this occasion my sincere thanks to Prof. S. MATSUMURA for his kind advice, and the other entomologists who have presented me with the valuable specimens my hearty gratitude.

## Key to the Genera



### Genus *Macrocentrus* CURTIS

*Macrocentrus* CURTIS, Entom. Magaz., p. 187 (1833); MARSHALL, Trans. Entom. Soc. London, p. 191 (1889); id., Spec. Hymén. Europe V, p. 288 (1893); THOMSON, Opusc. entom. p. 2209 (1895); ASHMEAD, Proc. U. S. Nat. Mus. Vol. 23, p. 118. (1900); SZÉPLIGETI, Gen. Insect. 22-24, p. 146 (1904); VIERECK, Bull. U. S. Nat. Mus. Washing. 83, p. 88 (1914).

*Amicropus* FÖRSTER, Verh. naturh. Ver. preuss. Rheinl. XIX, p. 256 (1862); ASHMEAD, Proc. U. S. Nat. Mus. Vol. 23, p. 118 (1900); SZÉPLIGETI, Gen. Insect. 22-24, p. 148 (1904); VIERECK, Bull. U. S. Nat. Mus. Washing. 83, p. 10 (1914).

Type—*Macrocentrus thoracicus* NEES

#### Key to the Species

### 1. *Macrocentrus marginator* NEES

*Bracon marginator* NEES, Magaz. Ges. naturf. Fr. Berlin, V, p. 14 (1811).

*Rogas marginator* NEES, Hymen. Ichneum. affin. Monogr. I, p. 205 (1834); RATZEBURG, Ichneum. d. Forstinsect, II, p. 65 (1848), III, p. 67 (1852).

*Macrocentrus marginator* VOLLENHOVEN, Pinacogr. p. 53 ♀ ♂, T. 34, Fig. 1, ♀ (1878); MARSHALL, Trans. Entom. Soc. London p. 194, ♀ ♂ (1889); id., Spec. Hymén. Europe V, 233 (1893); THOMSON, Opusc. entom. p. 2210 (1895); SZÉPLIGETI, Gen. Insect. 22-24, p. 147 (1904); MORLEY, Entomologist, p. 252 (1907); SZÉPLIGETI, Ann. Mus. Nat. Hungar. p. 425 (1908); LYLE, Entomologist, p. 259 (1914); FAHRINGER, Arkiv. för Zoologi Stockholm, Bd. 21 A, p. 7 (1929).

This is the first record to the Braconid-fauna of Japan.

Hab.—Saghalien (Ikusagawa, 2 ♀ ♀, 25/VII. 1924; Kawakami, 1 ♀, 30/VII. 1924, Dr. S. MATSUMURA)—Kuriles (Yetorup, 1 ♀ 1/VII. 1927, K. Dori)—Hokkaido (Sapporo, 1 ♀, 24/VII. 1927, Dr. S. MATSUMURA; 1 ♀, 4/VIII. 1915, S. KUWAYAMA; 2 ♀ ♀, 10/VIII. 1928, Dr. T. UCHIDA; 1 ♀, 8/VIII. 1931, K. IGARASHI; 1 ♀, 23/VIII. 1931, the author: Teshio, 1 ♀, 13/VII. 1927, Dr. S. MATSUMURA: Mt. Daisetsu, 1 ♀, 28/VII. 1930, S. KATO: Jōzankei, 1 ♀, 4/IX. 1931, Y. OHTA)—Honshu (Shizuoka, 1 ♀, 24/VII. 1928, the author)—Korea (Sanbo 6 ♀ ♀, 29/VII. 1922, T. UCHIDA and S. TAKANO).

Distr.—Europe, Siberia (Kamtchatka), Japan, Korea.

J. N.: *Kuro-higenagakomayu*.

### . *Macrocentrus abdominalis* FABRICIUS

*Ichneumon abdominalis* FABRICIUS, Entom. system. II, p. 183 (1793).

*Rogas linearis* NEES, Hymen. Ichneum. affin. Monogr. I, p. 200 (1834); RATZEBURG, Ichneum. d. Forstinsect. 11, p. 64, T. 2, Fig. 33 (1848), & III, p. 67 (1852).

*Macrocentrus abdominalis* MARSHALL, Trans. Entom. Soc. London p. 193, ♀ ♂ (1889); id., Spec. Hymén. Europe p. 235, ♀ ♂ (1893); SZÉPLIGETI, Gen. Insect. 22-24, p. 147 (1904); MORLEY, Entomologist p. 253 (1907); SZÉPLIGETI, Ann. Mus. Nat. Hungar., p. 425 (1908); LYLE, Entomologist p. 258 (1914).

*Macrocentrus linearis* HALIDAY, Entom. Magaz. I, p. 269 (1833); VOLLENHOVEN, Pinacogr., p. 53, T. 34, Fig. 4, ♀ (1878); THOMSON, Opusc. entom. p. 2212 (1895).

Though it is the commonest species in this genus, being very variable in colouration, yet the typical specimen has hitherto not been found from Japan.

Hab.—Honshu (Shizuoka, 7 ♀ ♀, 24/VII. 1928, the author; Wakayama, 1 ♀, 1927, F. WADA).

Distr.—Europe, Japan.

J. N.: *Higenagakomayu*.

### 2a. *Macrocentrus abdominalis* FABRICIUS f. *gifuensis* ASHMEAD

*Macrocentrus gifuensis* ASHMEAD, Proc. U. S. Nat. Mus. Vol. 30, p. 191, ♀ (1906); MATSUMURA, Nippon-ekichu-mokuroku p. 96 (1908); NAKAYAMA, Bull. Agric. Exp. Station, Chosen Vol. 4, p. 173-175, ♀ ♂, Fig. 4-5 (1929).

This form may be easily distinguished from the typical specimen by the black head.

According to S. NAKAYAMA it was bred from the larva of a *Pyralid*-moth, *Pyrausta nubilalis* HÜBNER, at Suigen in Korea, on July, 1928. It was also bred from the larvae of the same species and of some other microlepidopterous species which were feeding on the leaves of soy-bean at Nagano Agricultural Experiment Station, on August, 1921.

Hab.—Honshu (Gifu, after ASHMEAD; Nigata 3 ♀ ♀, 4 ♀ ♀, 29/V. 1917, ISHIKAWA; Nagano 13 ♀ ♀, 3 ♂ ♂, 16/VIII. 1921).—Korea (Suigen, after NAKAYAMA).

Host.—*Pyrausta nubilalis* HÜBNER

Distr.—Japan, Korea.

## 2b. *Macrocentrus abdominalis* FABRICIUS f. *pallidipes* NEES

*Bracon pallipes* NEES, Magaz. Ges. nuturf. Fr. Berlin V, p. 14 (1811).

*Rogas pallipes* NEES, Hymen. Ichneum. affin. Monogr. I, p. 203, ♀ (1834).

*Macrocentrus pallipes* VOLLENHOVEN, Pinacogr. p. 53, T. 34, Fig. 5 ♀ (1878)

*Macrocentrus abdominalis* var. *pallipes* MARSHALL, Trans. Entom. Soc. London p. 193 (1889); id., Spec. Hymén Europe V, p. 235 (1893); LYLE, Entomologist p. 259 (1914).

*Macrocentrus abdominalis* var. *pallidipes* DALLA TORRE, Catalog. Hymen. IV, p. 78, ♀ (1897).

SZÉPLIGETI, Gen. Insect. 22-24, p. 147, ♀ ♂ (1904).

*Macrocentrus pallidipes* FAHRINGER, Arkiv. för Zool. Stockholm. p. 7 (1929).

This form so differs in colouration from the typical specimen that some authors treat it as another species.

It was bred from the larva of a *Tortricid*-moth, *Cacoecia longicellana* WALS. on the 10th of July, 1917, and 24 female specimens emerged from a single larva of *Pandemis heparana* SCHIFF. on the 17th of July, 1930, at our College insectarium.

Hab.—Hokkaido (Sapporo 4 ♀ ♀, 10/VII. 1917, Dr. S. MATSUMURA; 24 ♀ ♀, 17/VII. 1930, the author).

Host.—*Cacoecia longicellana* WALS.; *Pandemis heparana* SCHIFF.

Distr.—Europe, Siberia, Japan.

## 3. *Macrocentrus infirmus* NEES

*Rogas infirmus* NEES, Hymen. Ichneum. affin. Monogr. I, 203, ♀ (1834).

*Macrocentrus infirmus* MARSHALL, Trans. Entom. Soc. London p. 196, ♀ ♂ (1889); id., Spec. Hymén. Europe V, p. 237, ♀ ♂ (1893); THOMSON, Opusc. entom. p. 2213, ♀ ♂ (1895); MORLEY, Entomologist p. 253 (1907); LYLE, Entomologist p. 261 (1914).

*Anicroplus infirmus* SZÉPLIGETI, Gen. Insect., 22-24, p. 148, ♀ ♂ (1904); id., Ann. Mus. Nat. Hungar., p. 525 (1908).

This is the first record to the *Braconid*-fauna of Japan; in 1930, 3 female specimens were collected in Saghalien by the author.

Hab.—Saghalian (Konuma, 1 ♀, 1/VII. 1930; Suzuya-dake, 1 ♀, 11/VII. 1930; Todoroki-tōge, 1 ♀, 13/VII. 1930, the author).

Distr.—Europe, Japan.

J. N.: *Hime-kuro-higenagakomayu*.

#### 4. *Macrocentarus japonicus* nov. sp.

♀. Head black; mandibles and palpi yellow; antennae dark brown, except the first two joints and a broad ring at the middle of the flagellum, which are yellow. Thorax yellow, with some black markings at the meso- and metanotum, sometimes scarcely black, the colour being variable. Legs yellow; hind femora and tibiae brown, except the bases, which are pale. Wings hyaline, stigma and veins brown, the former with a pale spot at the base. Abdominal segments 1-3 yellow with a fuscous marking at each apical margin, and the following segments usually black.

Head transverse, finely punctured; antennae longer than the body (broken at the apex beyond the 40th joint). Thorax closely punctured; mesonotum slightly depressed posteriorly, with a median longitudinal carina; metanotum punctured, being much closer than at the others, with a longitudinal carina at each lateral margin. Second cubital cell narrowed outwardly; 1st cubitus bent at the middle; nervulus postfurcal; radial cell of the hind wings sessile, coarctate owing to a sinus of the cubital nervure. Legs long and slender. Abdomen longer than the head and thorax together; 1st tergite transversely striated, with two fine longitudinal carinae at the base; 2nd and the base of 3rd longitudinally striated, the rest smooth and shining. Terebra as long as the body.

Length. 12-8 mm.

♀. Much resembles the female, but differs from it in having the antennae longer and slenderer, 45 jointed.

Hab.—Honshu (Shizuoka, 1 ♀, 2/X. 1930, the author; Tokyo, 1 ♂, 24/VII. 1924, M. YAMANAKA).—Shikoku (Matsuyama, 1 ♀, 20/VII. 1916; Kōchi, 1 ♀, 20/VI. 1930, SUGIHARA).—Formosa (Horisha, 1 ♀, 21/XII. 1916, ASAKURA: Ranrun, 1 ♂, 8/VII. 1915, T. UCHIDA, H. KÔNO, Y. MIWA; Taihoku, 1 ♀, 7/VII. 1911, H. SAUTER).

J. N.: *Kimadara-higenagakomayu*.

Closely allied to *Macrocentrus marginator* NEES, but differs from the latter in having the abdomen yellow with some black markings, the 1st tergite transversely striated, and the 1st cubitus of fore wings bent at the middle.

#### Genus *Cerotopia* ENDERLEIN

*Cerotopia* ENDERLEIN, Archiv für Naturg. 84 A, p. 219 (1920)

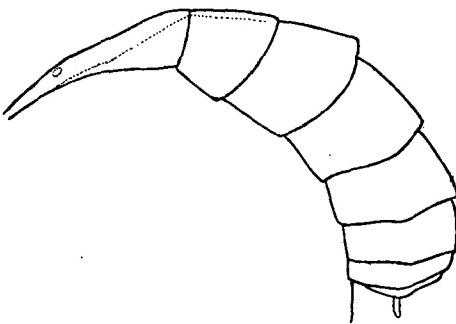
Type—*Cerotopia corneimacula* ENDERLEIN

**5. *Cerotopia corneimacula* ENDERLEIN**

*Cerotopia corneimacula* ENDERLEIN, Arch. für Naturg. 84 A, p. 220 ♀, Fig. 11 (1920); MATSUMURA, 6000 Ill. Insects Japan-Empire p. 73, ♀, Fig. 401 (1931).

As a supplement to ENDERLEIN's original description, the following points may be added:

♀. Antennae long and slender, about 55 jointed; spurs of the hind tibiae somewhat shorter than the metatarsi. Abdomen twice longer than the head and thorax taken together, yellow, somitemes tinged with black at the apex; 1st segment longer than the following two, finely punctured at the basal half, with two circular spiracles which are situated at one-third from the base; 2nd tergite laterally margined, as long as the 3rd; segments 4-5 much compressed, which are equal in length; 6th a little shorter than the 5th; the following two segments much shorter.



Lateral view of the abdomen of *Cerotopia corneimacula* ENDERLEIN

Terebra somewhat longer than the

hind tibial spurs, with short flattened sheaths.

Length. 18 mm.

♂. Unknown.

Hab.—Honshu (Wakayama, 1 ♀, VIII. 1928, F. WADA; Miye, 1 ♀, non-data, TANAKA; Mt. Wakasugi, 1 ♀, 12/VIII. 1927, K. YASUMATSU).—Korea (Shakoji, 1 ♀, 2/VII. 1922, T. UCHIDA, S. TAKANO).—Formosa (Baibara, 1 ♀, VII. 1925, Dr. S. MATSUMURA).

Distr.—Sumatra, Formosa, Korea, Japan.

J. N.: Ô-ameiro-konbôkomayu.

**Genus *Zele* CURTIS**

*Zele* CURTIS, Brit. Entom. Vol. 9, p. 415 (1832); MARSHALL, Trans. Entom. Soc. London p. 197 (1889); id., Spec. Hymén. Europe V, p. 244 (1894); ASHMEAD, Proc. U. S. Nat. Mus. Vol. 23, p. 119 (1900); SZÉPLIGETI, Gen. Insect. 22-24, p. 148 (1904); VIERRECK, Bull. U. S. Nat. Mus. Washing. 83, p. 156 (1914); LYLE, Entomologist p. 287 (1914).

*Homolobus* FÖRSTER, Verh. Nat. Ver. preuss. Rheinl. Vol. 19, p. 256 (1862); ASHMEAD, Proc. U. S. Nat. Mus. Vol. 23, p. 119 (1900); SZÉPLIGETI, Gen. Insect. 22-24, p. 148 (1904).

*Phylacter* THOMSON, Opusc. entom. p. 2207 (1895).

*Phylax* WESMAEL, Nouv. Mén. Acad. Soc. Belg. Vol. 9, p. 159 (1835).

Type.—*Zele testaceator* CURTIS

#### Key to the Species



## 6. *Zele testaceator* CURTIS

*Zele testaceator* CURTIS, Brit. Entom. IX, p. 415 (1831); MARSHALL, Trans. Entom. Soc. London p. 199, ♀ ♂, (1889); id., Spec. Hymen. Europe V, p. 244, ♀ ♂ (1894); SZÉPLIGETI, Gen. Insect. 22-24, p. 148 (1904); MORLEY, Entomologist p. 253 (1907); LYLE, Entomologist p. 287, Fig. 4, (1914); MATSUMURA, 6000 Ill. Insects Japan-Empire p. 75, Fig. 411, ♀ (1931).

*Roxas annulicornis* NEES, Hymen. Ichneum. affin. Monogr. I, p. 201 (1834).

*Zelotes annulicornis* KAWALL, Bull. Soc. Natur. Moscou XXXVIII, p. 361, ♀ ♂ (1865); VOLLMHOVEN, Pinacogr. p. 53, T. 34, Fig. 9, ♀ (1878).

*Phylacter annulicornis* THOMSON, Opusc. entom. p. 2208 (1895).

Hab.—Hokkaido (Sapporo, 2♀ ♀, 7♂ ♂, 29/VIII. 1926, Dr. T. UCHIDA; 20♂ ♂, 9/VI. 1929, the author; Jōzankei, 2♀ ♀, 15/VIII. 1925, Dr. T. UCHIDA; Obihiro, 1♀, 6/VI. 1927, Dr. T. UCHIDA; Mt. Daisetsu, 3♂ ♂, 4/VIII. 1926 Dr. S. MATSUMURA).—Honshu (Ōshima, 1♀, 2/IV. 1928, K. SATO).

Distr.—Europe, Japan.

J. N.: *Ameiro-kombôkomavu.*

6a. *Zele testaceator* CURTIS f. *japonica* nov. f.

♀♂. Differs from the typical specimen especially in having the metanotum distinctly arched, and in the female the abdomen at the apex less compressed, the terebra shorter, as long as the hind tibial spurs. The wings hyaline, not infumated at the apical half as in *Zele infumator* LYLE.\*

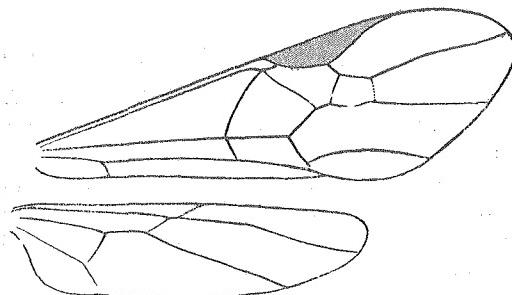
Hab.—Hokkaido (Sapporo, 1♀, 21/IX. 1931, M. TAKIZAWA).—Honshu (Chuzenji, 1♀, 5♂♂, 23/IX. 1916, E. GALLOIS; Chiba 1♂, 1929, T. OGUMA; Takao, 1♀, 23/X. 1924, K. TAKEUCHI).

7. *Zele simplex* nov. sp.

♀. Similar in structure and colouration to the preceding species; reddish

\* LYLE, Entomologist p. 288 (1914).

yellow; mandibles at the tips black; stemmaticum and eyes blackish. Wings hylaine, stigma yellow, veins darkish.



Wings of *Zele simplex* WATANABE (nov. sp.)

of the hind wings petiolate, widened towards the apex; cubital nervure not sinuated at the middle. Spurs of the hind tibiae somewhat longer than the metatarsi. Abdomen clavate, shorter and less compressed than that of the preceding. Terebra shorter, as long as the hind tibial spurs.

Length. 10 mm.

♂. Unknown.

Hab.—Hokkaido (Jôzankei, 1♀, 15/VIII. 1925, Dr. T. UCHIDA).

J. N.: *Ezo-ameiro-konbôkomayu*.

This is easily distinguished from the preceding by the radial cell of hind wings, which is petiolated.

### 8. *Zele discolor* WESMEAL

*Phylax discolor* WESMEAL, Nouv. Mén. Acad. Soc. Belg., IX, p. 162 (1835).

*Homolobus discolor* FÖRSTER, Verh. naturh. Ver. preuss. Rheinl. XIX, p. 256 (1862); VOLLENHOVEN, Pinacogr. p. 53, T. 34, Fig. 7, ♀ (1878); SZÉPLIGETI, Gen. Insect. 22-24, p. 148 (1904).

*Zele discolor* MARSHALL, Trans. Entom. Soc. London p. 200, ♀ (1889); id., Spec. Hymén. Europe V, p. 246 ♀ (1894); MORLEY, Entomologist p. 254 (1907); LYLE, Entomologist p. 290, ♀ Pl. VI, Fig. 3, ♀ (1914).

This is the first record to the Braconid-fauna of Japan.

Hab.—Honshu (Chuzenji, 1♀, 7/VIII. 1915, E. GALLOIS; Mt. Hira, 1♀, 18/VI. 1929, C. TERANISHI).

Distr.—Europe, Japan.

J. N.: *Kuro-konbôkomayu*.

Head transverse, as broad as the thorax; 3rd joint of the labial palpi very short and slender, 4th longest, inserted at the middle of the 3rd. Thorax smooth and shining, clothed with yellowish pubescence; metanotum distinctly areated, the middle area lanceolate, with a transverse carina in it; metapleural tooth stronger. Nervulus interstitial; radial cell

## 摘要

著者が本文に挙げたる八種の本邦産 *Macrocentrini* に属する小蘿蜂の學名、和名、分布は次の如し。

## 學名及び和名

- |   | 分 布   |
|---|---|
| 1. <i>Macrocentrus marginator</i> NEES<br>クロヒゲナガコマユ (新稱)  | 1. 朝鮮、本州、北海道、樺太、千島<br>シベリヤ、ヨーロッパ                  |
| 2. <i>M. abdominalis</i> F.<br>ヒゲナガコマユ (改稱)<br>a.) <i>f. gifuensis</i> ASHMEAD<br>b.) <i>f. pallidipes</i> NEES | 2. 本州、ヨーロッパ。<br>a.) 本州、朝鮮。<br>b.) 北海道、シベリヤ、ヨーロッパ。 |
| 3. <i>M. infirmus</i> NEES<br>ヒメクロヒゲナガコマユ (新稱)  | 3. 樺太、ヨーロッパ。                                      |
| 4. <i>M. japonicus</i> WATANABE (nov. sp.)<br>キマダラヒゲナガコマユ (新稱)  | 4. 本州、四國、臺灣。                                      |
| 5. <i>Ceratopia cornelimacula</i> ENDERLEIN<br>オホアメイロコンボウコマユ (改稱)   | 5. 本州、臺灣、朝鮮、スマトラ。                                 |
| 6. <i>Zele testaceator</i> CURTIS<br>アメイロコンボウコマユ (改稱)<br>a.) <i>f. japonica</i> WATANABE (nov. f.)              | 6. 北海道、本州、ヨーロッパ。<br>a.) 本州。                       |
| 7. <i>Z. simplex</i> WATANABE (nov. sp.)<br>エゾアメイロコンボウコマユ (新稱)  | 7. 北海道。   |
| 8. <i>Z. discolor</i> WESMAEL<br>クロコンボウコマユ (新稱)   | 8. 本州、ヨーロッパ。                                      |